The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHARLES EDWARD BOICE, JAMES DAVID GREENFIELD, JOHN MARK KACZMARCZYK, AGNES YEE NGAI, and STEPHEN PHILIP POKRINCHAK

Appeal No. 2005-2022
Application No. 09/255,892

ON BRIEF

Before BARRY, LEVY, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-29, which are all the claims in the application.

We reverse.

BACKGROUND

The invention is directed to method and apparatus for encoding a sequence of video data consistent with an MPEG standard for encoding. Claim 29 is reproduced below.

29. An article of manufacture comprising:

a computer program product comprising computer usable medium having computer readable program code means therein for use in encoding a sequence of video data, said computer readable program code means in said computer program product comprising:

computer readable program code means for causing a computer to effect storing within a quantizer multiple sets of quantization matrix tables at the same time, wherein said multiple sets of quantization matrix tables comprise separate, independent sets of quantization matrix tables, each set of quantization matrix tables comprising at least one intra matrix table and at least one non-intra matrix table;

computer readable program code means for causing a computer to effect quantizing the sequence of video data in a single pass using at least one set of quantization matrix tables of said multiple sets of quantization matrix tables; and

computer readable program code means for causing a computer to effect dynamically switching in real time said quantizing during said single pass from using said one set of quantization matrix tables to using another set of quantization matrix tables of said multiple sets of quantization matrix tables, wherein said dynamically switching occurs without requiring stopping of the encoding process; and

computer readable program code means for causing a computer to effect allowing updating of said one set of quantization matrix tables of said multiple sets of quantization matrix tables within said quantizer while said another set of quantization matrix tables is in use by said quantizer.

The examiner relies on the following references:

Hang et al. (Hang)	5,710,595	Jan. 20, 1998
Hosono	5,796,438	Aug. 18, 1998 (filed Jun. 23, 1995)
Wheeler et al. (Wheeler)	5,825,680	Oct. 20, 1998 (filed Jun. 21, 1996)
Rick et al. (Rick)	5,987,179	Nov. 16, 1999 (filed Sep. 5, 1997)

Claims 1-4, 10-12, 18-20, 23-25, and 29 stands rejected under 35 U.S.C. § 102 as being anticipated by Wheeler.

Claims 5, 6, 9, and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wheeler and Hang.

Claims 7, 8, and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wheeler and Rick.

Claims 13-17 and 26-28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wheeler and Hosono.

We refer to the Final Rejection (mailed Jan. 14, 2004) and the Examiner's Answer (mailed Jun. 29, 2004) for a statement of the examiner's position and to the Brief (filed May 6, 2004) and the Reply Brief (filed Aug. 16, 2004) for appellants' position with respect to the claims which stand rejected.

OPINION

This application was before the Board in a prior appeal (No. 2001-1864). In the disposition of that appeal, we affirmed the rejection of all the claims over the applied prior art. (See Decision mailed March 28, 2003.)

In the prior appeal, the examiner applied Wheeler against claim 29 for anticipation under § 102. A basis for our findings with respect to Wheeler was the below-quoted section of the reference's column 13.

> In the preferred embodiment there are two quantization tables; one table is used when operating on intra-coded macroblocks, the other table is used on non-intra-coded macroblocks.
>
> As shown in FIG. 7, the quantization tables are stored in Q table rams **690**. The CPU is responsible for loading all Q table entries. During encode and decode the CPU loads the tables as required. Thus, the CPU is responsible for updating Q tables on video stream context switches.

Wheeler col. 13, ll. 24-32.

We disagreed with appellants on several points in regard to what claim 29 required in comparison to the teachings of Wheeler. In particular, we noted:

> Absent reading disclosed limitations into instant claim 29, we do not see how the recitations regarding the storage of multiple sets of quantization tables might be thought to distinguish over Wheeler. *We agree with appellants to the extent that the Q table RAMs are disclosed as containing only one set of quantization tables at any particular time.* However, Wheeler also discloses that the CPU is responsible for updating the Q tables and loads the tables as required.

Decision of Mar. 28, 2003 at 5-6 (emphasis added).

We thus agreed with appellants on one point with respect to what Wheeler did not show, but were not convinced that the claim required the feature that was argued. However, unlike the claim 29 in the prior appeal, instant claim 29 contains the express limitation of storing within a quantizer multiple sets of quantization matrix tables "at the same time."

In the statement of the rejection of claim 29 that is before us (Answer at 3-4), the examiner does not specify where Wheeler discloses that multiple sets of quantization matrix tables may be stored at the same time. In addressing a related limitation, however, the examiner contends that Figure 7 and column 13, lines 28 through 32 of Wheeler indicates that element 690 of Wheeler appears to be a single "Q table," but the reference discloses that "Q tables" are stored in Q table RAMs 690. (Answer at 7-8.)

The section of Wheeler that we quoted supra, however, makes clear that the reference to multiple "tables" stored in Q table RAMs 690 is a reference to the two quantization tables of the preferred embodiment; i.e., one table for operating on intra-coded macroblocks and one table for operating on non-intra-coded macroblocks.

In consideration of Wheeler's description of use of the Q table RAMs 690, we remain of the view that Wheeler discloses that the Q table RAMs contain only one set of quantization tables at any particular time. As such, we agree with appellants that instant claim 29 distinguishes over Wheeler.

Instant claim 29 also requires that the multiple sets of quantization matrix tables comprise separate, independent sets of quantization matrix tables, each set of quantization matrix tables comprising at least one intra matrix table and at least one non-intra matrix table. Wheeler describes two tables, one that may be considered to comprise "at least" one intra matrix table and one that may be considered to comprise "at least" one non-intra matrix table. Wheeler thus discloses a single set of quantization matrix tables, rather than multiple sets.

We also note that instant claim 29 differs from the former version in allowing the updating of one set of quantization matrix tables while another set of quantization matrix tables is in use by the quantizer. According to the rejection (Answer at 4), this is taught by column 9, lines 25 through 36 of Wheeler. That section of Wheeler, however, relates that the macroblock scaling factor (MQUANT) value may range from 1 to 31. The MQUANT value, as described at column 13, lines 18 through 45, is multiplied by the values in the quantization tables 690 (Fig. 7), in an operation that is described in more detail at column 9 and Figure 3A. The MQUANT value, according to column 9, lines 2 through 15 (Fig. 3A) is provided for a particular block by the CPU during the scene characterization process. Wheeler teaches, in the section relied upon by the examiner, that assigning MQUANT values according to the invention allows dynamic updating of the method for allocating bits to a block. That this teaching might

indicate that one set of the quantization matrix tables may be updated while another set of tables is in use is, at best, a basis for speculation, but is not a basis for anticipation.

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). We agree with appellants that Wheeler fails to anticipate instant claim 29. We do not sustain the rejection.

Each of independent claims 1 and 18 contains similar limitations to those we have discussed in instant claim 29. We therefore cannot sustain the rejection of claims 1-4, 10-12, 18-20, 23-25, and 29 under 35 U.S.C. § 102 as being anticipated by Wheeler.

Nor can we sustain any of the § 103 rejections applied against the claims. The references proposed to be combined with Wheeler do not remedy the basic deficiencies in the rejection applied against the independent claims.

CONCLUSION

The rejection of claims 1-4, 10-12, 18-20, 23-25, and 29 under 35 U.S.C. § 102 and the rejection of claims 5-9, 13-17, 21, 22, and 26-28 under 35 U.S.C. § 103 are reversed.

REVERSED

LANCE LEONARD BARRY
Administrative Patent Judge)
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STUART S. LEVY) BOARD OF PATENT
Administrative Patent Judge) APPEALS
) AND
) INTERFERENCES
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HOWARD B. BLANKENSHIP)
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